# On mixed alignment in Hokkaido Ainu and its variations*

Qiūshí Chén
University of Connecticut

## 1 Introduction

It is well-known and extensively discussed that languages differ in how they align the core arguments of verbs, with two commonly attested alignment patterns being (nominative-)accusative and ergative(-absolutive) (Comrie 1978, a.m.o.). An accusative system treats transitive subjects (A) and intransitive subjects (S) alike, while transitive objects (P) pattern differently. In an ergative system, by contrast, transitive subjects are distinguished from both transitive objects and intransitive subjects, with the latter two patterning similarly. Besides the two, there are also neutral (A=S=P) and tripartite (A≠S≠P) systems, as summarized in Table 1:

<table>
<tr><th></th><th>accusative</th><th>ergative</th><th>neutral</th><th>tripartite</th></tr>
<tr><td>Transitive subject (A)</td><td rowspan="2">A=S</td><td>A</td><td rowspan="3">A=S=P</td><td>A</td></tr>
<tr><td>Intransitive subject (S)</td><td rowspan="2">S=P</td><td>S</td></tr>
<tr><td>Object (P)</td><td>P</td><td>P</td></tr>
</table>

**Table 1:** A (partial) typology of alignment patterns

The typology in Table 1 can be used to describe both *case* and *agreement* systems, among other things. For example, in a typical ergative case system, S arguments and P arguments are marked by the same case (the absolutive case), while A arguments appear with another case marker (the ergative case). The situation is slightly more complex for agreement. For instance, ergative agreement may refer to cases where a certain morphological slot indexes A arguments but not S or P arguments, or to cases where an A argument is marked differently from an S or P argument in the same morphological slot which tracks all arguments—the two possibilities can be referred to as pattern-based ergative agreement and morpheme-based ergative agreement, respectively.

It is also not difficult to find *split* systems, i.e., systems that mix two or more of the patterns in Table 1. For example, language-wise, it has been claimed that there are no 'pure' ergative systems: All ergative languages seem to show some non-ergative properties (in many cases, accusative properties) in some areas of their grammar (Silverstein 1976, a.o.). In theory, the derivation of different split systems has been debated (e.g., Legate 2014, a.m.o.). Note that most studies of (split) alignment systems concentrate on *case*, rather than *agreement* (the studies on Mayan being a notable exception; see, e.g., Coon 2013).

This paper discusses a case of split alignment found in the agreement system(s) of Hokkaido Ainu (henceforth Ainu). Ainu has no overt case marking for arguments but shows complex agreement morphology. The basic paradigm is given in

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Table 2 (ignoring dialectal variations for the moment). Traditionally, the system is described as a mixed one (see Bugaeva 2017, 2022, 2024): (i) 1SG involves an accusative pattern as S and A are marked by the same prefix *ku-* whereas P uses a different marker *en-* (S=A≠P); (ii) 1PL shows a tripartite pattern where the three types of arguments are all marked differently on the verb (S≠A≠P); and (iii) second and third person are neutral, as the markers used for them do not seem to track the grammatical role of the argument (S=A=P). In other words, according to the traditional description, $\phi$-marking on Ainu verbs shows a morpheme-based split, conditioned by $\phi$-features.

| argument feature | S | A | P |
|---|---|---|---|
| 1SG | *ku-* | | *en-* |
| 1PL.EXCL | *=as* | *ci-* | *un-* |
| 1PL.INCL | *=an* | *a-* | *i-* |
| 2SG | *e-* | | |
| 2PL | *eci-* | | |
| 3 | ∅ | | |

**Table 2:** $\phi$-marking in Saru Ainu (Tamura 2000:49; adapted)

This paper provides a formal analysis of the paradigm in Table 2.[1] I will argue that the complex alignment split in Ainu underlyingly involves a 'flat' accusative pattern, obscured largely by morphological factors. I first show in Section 2 that the different $\phi$-markers presented in Table 2 do not locate in the same domain. Section 3 derives the tripartite pattern for first-person plurals, where it is argued that the two $\phi$-suffixes *=an* and *=as* are realizations of a distinct head, which only show up when the relevant $\phi$-features are not realized previously in the derivation, for reasons to be discussed below. Section 4 discusses the neutral pattern for second and third person, arguing that it is underlyingly accusative *plus* a surface syncretism between subject and object agreement. An interesting case of cross-dialectal variations regarding the 1>2 contexts is considered in Section 5, which is shown to be nicely captured by the analysis presented in this paper. Section 6 concludes.

## 2 Deep into the data: The prefix-suffix asymmetry

Before spelling out the analysis in Section 3, we first take a closer look at the data. Subsection 2.1 shows that the $\phi$-prefixes and the $\phi$-suffixes listed in Table 2 are in fact located in two distinct domains; Subsection 2.2 then discusses the implications of this finding for the traditional claim that Ainu shows a mixed alignment pattern.

### 2.1 The $\phi$-prefixes and the $\phi$-suffixes are in two domains

First, as already represented in Table 2, first-person singular (1SG) in Ainu shows an *accusative* pattern (S=A≠P) regarding verbal morphology (the data in (1–6) are all from Tamura 2000):

[1] See Trommer 2010 for a previous account of Ainu agreement from a very different perspective. I will not be able to consider Trommer's approach in this paper for reasons of space.

(1) a. Ku- mína.
1SG.SBJ-laugh
'I laugh.'

b. Ku- nukar.
1SG.SBJ-see
'I see her.'[2]

c. En- nukar.
1SG.OBJ-see
'She sees me.'

Second, first-person exclusive (glossed as 1PL) and inclusive plurals (glossed as 2+1) show a rare *tripartite* pattern (S≠A≠P):[3]

(2) a. Mína =as.
laugh=1PL.S
'We$_{EXCL}$ laugh.'

b. Ci- nukar.
1PL.A-see
'We$_{EXCL}$ see her.'

c. Un- nukar.
1PL.P-see
'She sees us$_{EXCL}$.'

(3) a. Mína =an.
laugh=2+1.S
'We$_{INCL}$ laugh.'

b. A- nukar.
2+1.A-see
'We$_{INCL}$ see her.'

c. I- nukar.
2+1.P-see
'She sees us$_{INCL}$.'

Third, second and third person show *neutral* alignment (S=A=P):

(4) a. E- mína.
2SG-laugh
'You$_{SG}$ laugh.'

b. E- nukar.
2SG-see
'You$_{SG}$ see her/She sees you$_{SG}$.'

(5) a. Eci- mína.
2PL-laugh
'You$_{PL}$ laugh.'

b. Eci- nukar.
2PL-see
'You$_{PL}$ see her/She sees you$_{PL}$.'

(6) a. Mína.
laugh
'She/they laugh(s).'

b. Nukar.
see
'She/they see(s) her/them.'

It is important to notice that while most $\phi$-markers in (1–6) are *prefixes*, two of them are *suffixes*, namely *=as* for 1PL intransitive subjects (2a) and *=an* for 2+1 intransitive subjects (3a).[4] Crucially, both suffixes are used for $\phi$-values that involve a tripartite pattern (1PL and 2+1), and whenever the pattern for certain $\phi$-values is tripartite, there is a suffix; in other words, in Ainu, one never finds a suffix marking $\phi$-values that exhibit an accusative or neutral pattern (see Section 5 for further complication), and one finds exactly one suffix for $\phi$-values that show a

[2] According to the discussion in Section 4, third-person arguments are indexed on the verb by a phonetically null affix ∅-. It is ignored in the glosses here.

[3] The first-person inclusive is multi-functional in Ainu: It also has impersonal, logophoric, and second-person honorific uses (so-called 'fourth person' in traditional Ainu studies). An investigation of this topic lies outside the scope of this short paper (see Little 2024 for a cross-linguistic overview), and I will simply assume that the first-person inclusive use is the 'prototypical' one, based on which the other uses are derived (Kindaichi 1931; see however Bugaeva 2021 for a different view).

[4] As we will see below in the text, it is actually a misnomer to call these two postverbal markers *suffixes*, as they are in fact phonologically independent units. For convenience, I will continue to call them suffixes in this paper.

tripartite pattern. Additionally, both suffixes are used for S arguments, not A or P. A successful analysis should be able to capture all these observations.

The two $\phi$-suffixes are also structurally special: In fact, *=as* and *=an* are distinguished from the $\phi$-prefixes not only by their surface position (i.e., they occur after the verb), but also in that they occupy a distinct morphophonological *domain*. First, Ainu is a pitch-accent language where each phonological word has an H tone on exactly one of its syllables (see Bugaeva 2024:558). However, while verbal affixes normally do not bear an H on their own (as they are not independent phonological words), *=as* and *=an* are prosodically autonomous and can carry their own H, as in (7) (in general, no other affixes in Ainu behave like this):[5]

(7) Hopúni =ás.
get.up=1PL.S
'We$_{\text{EXCL}}$ got up.' (Bugaeva 2024:561)

Second, there are various ways to resolve vowel hiatus in Ainu, which is in general disallowed in the language (Shiraishi 2022). However, while a $\phi$-prefix normally triggers vowel deletion or glide formation to avoid hiatus,[6] a $\phi$-suffix induces the insertion of a glottal stop. For example, (7) is in fact pronounced as [hopúni<u>ʔ</u>ás]. Importantly, Shiraishi (1999) shows that the glottal stop does not have a phoneme status in Ainu (see also Chiri 1973; Satō 2015)—this means that ʔ-insertion should not be viewed as a phonological rule specified in the grammar of Ainu; rather, the insertion of a glottal stop is an automatic phonetic process that happens between two adjacent vowels, which happens only if the hiatus in question is *not* resolved by a 'real' phonological rule such as deletion or glide formation. More specifically, I suggest that vowel deletion or glide formation happens within a phonological word, while ʔ-insertion occurs across a phonological word boundary.[7]

Third, strikingly, unlike any other verbal affixes, the two $\phi$-suffixes may even be separated from the verb. For example, (8a) involves a case of reduplication, where only the suffix *=an* is reduplicated whereas the verb itself is not, creating a stranded suffix (cf. fn.4). By contrast, in (8b) in the same construction, the verb and the prefix are reduplicated as a whole:

(8) a. Cis =an a =an a.
cry=2+1.S PART =2+1.S PART
'We$_{\text{INCL}}$ cried and cried and cried.'

b. Ku- cis a ku- cis a.
1SG.SBJ-cry PART 1SG.SBJ-cry PART
'I cried and cried and cried.'
(Tamura 1970)

[5]The position of H is predictable for most Ainu words (see Tamura 2000). I use the acute only in transcribing H in unpredictable positions; predictable H is unmarked ((7) is the only exception, whose accent pattern is regular).

[6]The choice between vowel deletion and glide formation is subject to both phonological and morphosyntactic factors; I will not go into this topic in detail in this paper (for discussion, see Shiraishi 2022, Bugaeva 2024, and references therein).

[7]For example, as discussed in Bugaeva 2024, while the verb phrase *kéra <u>ʔ</u>an* 'taste exist.SG' is found in the Saru dialect of Ainu, where a glottal stop is inserted between the two phonological words (the existential verb *an* is homophonous with and is arguably historically related to the $\phi$-suffix *=an*), in the lexicalized adjectival form *ker<u>a</u>n* 'delicious'(<*kera-<u>a</u>n*), which is a single phonological word (attested in Sōya Ainu), it is vowel deletion that is triggered.

In (9), the $\phi$-marker *=an* is separated from the main verb by a discourse particle *ka*, as well as a negative marker:

(9) ... siyeye ka somo =an ...
become.ill even NEG =2+1.S
'... one will not even get sick ...' (Tamura 2000:77)

The above evidence strongly suggests that the $\phi$-prefixes and the two $\phi$-suffixes in Ainu are located in two distinct phonological domains. As represented in (10), I refer to the two domains as Domain I and Domain II, respectively:[8]

(10) [Domain II [Domain I $\phi$-prefixes - verb stem ] *=an/=as* ]

## 2.2 Domain I is accusative, but with two gaps

If agreement in Ainu involves two domains, it becomes less clear if the traditional description of its alignment pattern (i.e., it is a mixture of accusative, tripartite, and neutral systems), which by itself says nothing about where the affixes occur, is insightful enough. In fact, as shown below, we can make more precise descriptive generalizations by first observing what happens in a specific domain, *before* looking at the whole system. Let us first consider what happens to first person in Domain I (henceforth D1; second and third person are discussed in Section 4). The relevant data provided above are reorganized as below:

(11) First-person singular (1SG)
a. [D2 [D1 ku- mína ] __ ] 'I laugh.'
b. [D2 [D1 ku- nukar ] __ ] 'I see her.'
c. [D2 [D1 en- nukar ] __ ] 'She sees me.'

(12) First-person plural, exclusive (1PL)
a. [D2 [D1 __mína ] =as ] 'We$_{EXCL}$ laugh.'
b. [D2 [D1 ci- nukar ] __ ] 'We$_{EXCL}$ see her.'
c. [D2 [D1 un- nukar ] __ ] 'She sees us$_{EXCL}$.'

(13) First-person inclusive (2+1)
a. [D2 [D1 __mína ] =an ] 'We$_{INCL}$ laugh.'
b. [D2 [D1 a- nukar ] __ ] 'We$_{INCL}$ see her.'
c. [D2 [D1 i- nukar ] __ ] 'She sees us$_{INCL}$.'

While under the traditional *global* view, one may say that 1PL and 2+1 involve tripartite alignment, from the new *domain-based* perspective, we can say that, within **D1**, *all* first person show an accusative pattern, with two morphological gaps in 1PL (12a) and 2+1 (13a) intransitives. Crucially, it is exactly in these two cases that one finds an overt suffix occurring in **D2**. This is summarized in Table 3.

Within D1, one never finds two different prefixes for an S argument and an A argument with the same $\phi$-features. The new generalization is thus that 1PL and 2+1 *somehow* do not have an overt agreement marker for the intransitive subject within a certain domain (which also contains the verb stem), in which case the relevant features are realized in a different domain. We move on to the analysis in Section 3, which captures this generalization in a principled way.

[8] The stem in (10) contains the verbal root as well as other verbal affixes such as voice markers. All $\phi$-markers in Ainu occur peripheral to any other affixes the verb may have (see Bugaeva 2024 for a general description of Ainu verbal morphology).

| | Within **D1** | | | In **D2** | Traditional pattern |
|---|---|---|---|---|---|
| | S | A | P | | |
| 1SG | *ku-* | | *en-* | ✗ | accusative |
| 1PL | ✗ | *ci-* | *un-* | *=as* | tripartite |
| 2+1 | ✗ | *a-* | *i-* | *=an* | tripartite |

**Table 3:** A (partial) typology of alignment patterns

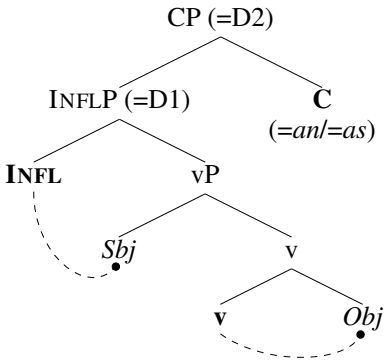
## 3 Towards a solution: First person

This section spells out the analysis of Ainu agreement. After laying out some basic assumptions in Subsection 3.1, Subsection 3.2 provides step-by-step derivations of the three first-person configurations in (11–13).

### 3.1 Basic components of the analysis

Recall that the discussion in Section 2 is based on phonological evidence, the conclusion being that $\phi$-prefixes and $\phi$-suffixes are in two *phonological* domains. Following Fenger & Weisser 2025 (and references therein), I assume that domains in the syntax and in the phonology are *isomorphic*, which essentially means that the two phonological domains in question are a direct reflection of two morphosyntactic domains. Recall also that for first person in D1 (now understood as both a phonological domain and a morphosyntactic domain), the alignment pattern is always accusative (though there are two gaps to be accounted for). I assume that D1 corresponds to INFLP in the syntax (see below, though nothing actually hinges on the label). Now, a well-established way of capturing the accusative pattern is to propose two probes, namely INFL and v, which are responsible for subject and object agreement, respectively. INFL is always a probe in the structure, whereas v Agrees only in intransitives (cf. Chomsky 2000). The assumed (transitive) structure is represented in (14) (see below on C; I ignore irrelevant details in (14) as well as in other tree diagrams in this paper), where INFL probes vP and invariably Agrees with the subject (as the subject is always the first argument INFL finds), and v Agrees with the object in transitive clauses. (In intransitives, by contrast, v does not Agree and INFL Agrees with the only argument.)

(14)




In addition, for the two $\phi$-suffixes in D2, I posit in (14) an extra Agreeing head merged above INFLP (how it works is explained in detail in the next subsection). I label it as C, as (i) it Agrees and (ii) its PF-realization (*=an* or *=as*) is phonologically independent (both are typical properties of C heads), though this label in the current

context is used mostly for ease of exposition, as *=an* and *=as* do not actually behave like *complementizers*. At PF, the structure in (14) is linearized as (15), where INFL and v are realized as prefixes and C is realized as a suffix (the realization of any of them can be covert; see the next subsection):

(15) $[_{D2}\ [_{D1}$ **INFL-v**-stem ] **=C** ]

Finally, the vocabulary insertion (VI) rules in (16–18) are proposed:[9]

(16) v exponents:

a. $[+\text{PART}, +\text{SPKR}, -\text{PL}]_{v} \rightarrow$ *en-* ('1SG P marker')

b. $[+\text{PART}, +\text{SPKR}, +\text{PL}]_{v} \rightarrow$ *un-* ('1PL P marker')

c. $[+\text{PART}, +\text{SPKR}, +\text{ADDR}]_{v} \rightarrow$ *i-* ('2+1 P marker')

(17) INFL exponents:

a. $[+\text{PART}, +\text{SPKR}, -\text{PL}]_{\text{INFL}} \rightarrow$ *ku-* ('1SG A&S marker')

b. $[+\text{PART}, +\text{SPKR}, +\text{PL}]_{\text{INFL}} \rightarrow$ *ci-* / __ $[\phi]_{v}$ ('1PL A marker')

c. $[+\text{PART}, +\text{SPKR}, +\text{ADDR}]_{\text{INFL}} \rightarrow$ *a-* / __ $[\phi]_{v}$ ('2+1 A marker')

(18) C exponents:

a. $[+\text{PART}]_{C} \rightarrow$ *=an* ('2+1 S marker')

b. $[+\text{PART}, +\text{PL}]_{C} \rightarrow$ *=as* ('1PL S marker')

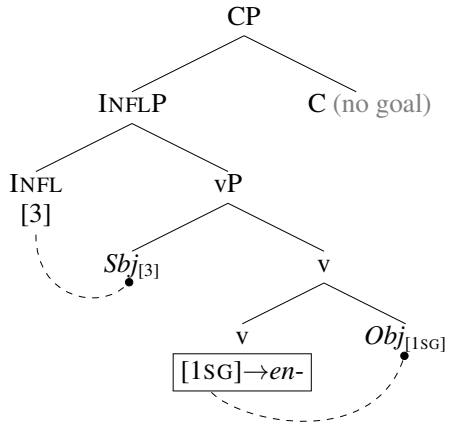
We are now ready to see the real derivations.

## 3.2 The derivations

We discuss first-person singular forms (1SG) first, which is transparently accusative (*ku-* vs. *en-*; (17a) & (16a)). The derivation of the 3>1SG configuration is represented in (19), where INFL and v Agree with the third-person subject and the [1SG] object, respectively (see below on C). The relevant $\phi$-features are copied onto the two heads. At PF, [1SG] (short for [+PART, +SPKR, −PL]; see fn.9) is realized as *en-*, given (16a). For the third-person feature on INFL, I assume that it is realized as a zero (third person never leads to overt agreement in Ainu; see Section 4 for further discussion):

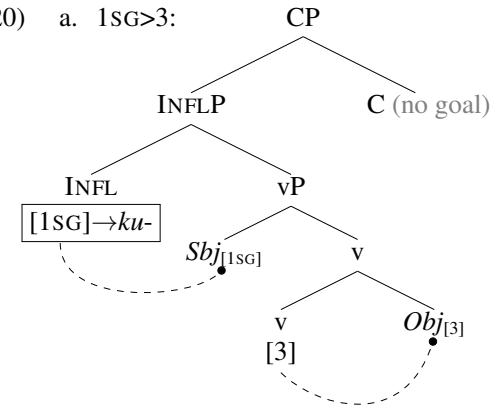
[9] In (16–17) I assume 1SG = [+PART, +SPKR, −PL], 1PL = [+PART, +SPKR, +PL], and 2+1 (first-person inclusive) = [+PART, +SPKR, +ADDR] (number features are absent in 2+1 for reasons I cannot go into in this short paper). See Section 4 for second and third person. See Section 5 for further discussion of the rules for C exponents in (18).

(19) 3>1SG:

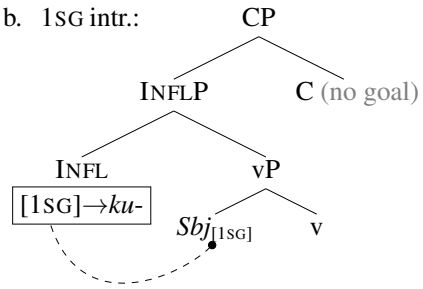



When [1SG] is on the subject, these features are copied by INFL. As in both (20a) and (20b), [1SG] is realized as *ku-* on INFL, according to (17a). While the transitive v Agrees in (20a) but the intransitive v does not Agree in (20b), it has no impact in morphology as third person is in general not overtly realized in Ainu agreement (see Section 4):

(20) a. 1SG>3:




b. 1SG intr.:




Note that C is not overtly realized in all cases in (19–20). First, I assume that each argument can only be Agreed with once (an argument is featurally 'deactivated' once it Agrees with one probe), due to something like the Activity Condition. Second, I assume that VI rules are *rewrite* rules (see Halle 1990; Bobaljik 2000; Bondarenko & Zompì 2025). That is, the application of VI rules 'consumes' the corresponding formal features and replaces them with (morpho-)phonological features; after VI, the formal features are 'used up' and are no longer visible in the derivation. As a result, in all cases in (19–20), all relevant $\phi$-features within INFLP are consumed or deactivated at the point C probes, so even though C is an Agreeing head, it finds no features in its c-commanding domain and fails to Agree (see below for cases where C Agrees successfully). Hence, C gets no overt morphology.[10]

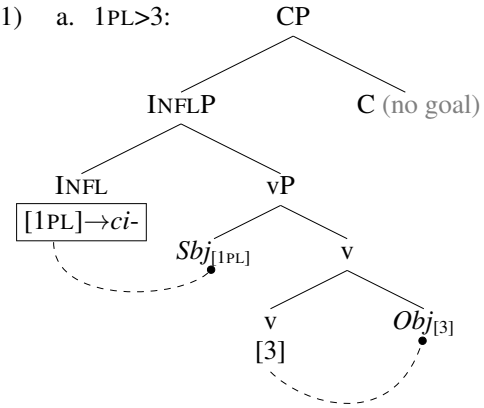
The accusative pattern for 1SG is thus captured, where INFL and v both work

[10]I follow Preminger 2014 in assuming that the failure of Agree in general does not lead to ungrammaticality. In Preminger's system, failed Agree results in default morphology, which is *sometimes* zero—I return to this point below in the text.

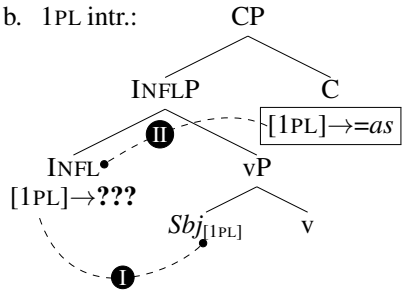
in a straightforward way. However, the situation is more complex with regard to 1PL and 2+1, where we see a tripartite pattern (12–13). First, there is essentially nothing special about 3>1PL and 3>2+1, which are realized as *un*-Σ (12c) and *i*-Σ (13c), respectively. I assume that the derivation for both cases is similar to 3>1SG in (19), the only difference being the features on the object, and consequently, the features on v. The corresponding VI rules (16b–16c) then apply, resulting in the correct forms.

The question is how to account for the cases where the 1PL or 2+1 argument is the subject. As we have seen, in such cases, transitive and intransitive subjects are marked differently on the verb. Consider 1PL>3 and 1PL in intransitives, where the former is realized as *ci*-Σ (12b) and the latter is realized as Σ=*as* (12a) . What is special here is that in the latter, we do not observe a $\phi$-prefix (as in 1SG intransitives (20b)), but see a $\phi$-suffix instead. The relevant derivations of 1PL>3 and 1PL intransitives are proposed as below:

(21) a. 1PL>3:




b. 1PL intr.:



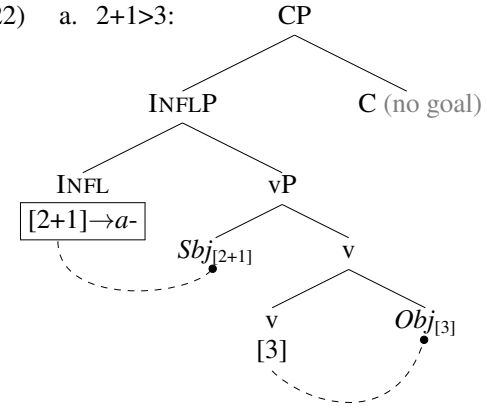

In the transitive 1PL>3 (21a), the [1PL] features of the subject are copied onto INFL, where they are realized as *ci*-, according to (17b). However, things are different in the intransitive (21b). Here, while the [1PL] features are also copied onto INFL, as expected, these features are crucially *not* realized at PF. This is because the VI rule stated in (17b) is *contextualized*: The insertion of *ci*- happens to INFL only when there are $\phi$-features on v. That is, [1PL] is realized as *ci*- on INFL only when v is an Agreeing head and it successfully Agrees. However, (21b) is intransitive where v does not Agree (see Subsection 3.1), and as a consequence, [1PL] on INFL fails to morphologically realize. Hence, no prefix occurs in (21b).

Recall that VI rules are rewrite rules which replace formal features with (morpho)phonological features. Consequently, if certain formal features are not 'consumed' by a VI rule, they stay and remain active in the derivation. As in (21b), when C is merged, it probes INFLP. C Agrees successfully this time—unlike the 1SG intransitive (20b) where all relevant $\phi$-features within INFLP are consumed or deactivated, the features on INFL are still present when C probes in (21b). Hence, an Agree relation between INFL and C is established as a result of the probing of C. The [1PL] features are thus copied onto C, where (18b) applies at PF, resulting in the suffix =*as*.[11]

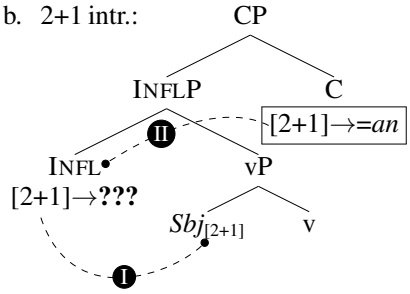
[11]The current analysis assumes that the probing of C happens after INFL is spelled out. I will not

The apparent tripartite pattern of 2+1 in (13) is accounted for in the same way. Compare the intransitive (22b) with the transitive (22a). In both cases, the [2+1] features on the subject are copied onto INFL. However, the features are realized as *a-* in (22a) but not in (22b), due to the VI rule (17c), which applies to INFL only if there are also $\phi$-features on v. After INFLP is sent to spell-out, C is merged and probes (see fn.11). Only in (22b) but not in (22a) does C find 'unconsumed' $\phi$-features on INFL. The [2+1] features are thus copied onto C in (22b), where they are realized as *=an*, according to (18a):[12]

(22) a. 2+1>3:




b. 2+1 intr.:




The above discussion successfully captures the apparent tripartite pattern for 1PL and 2+1. They in fact show a 'flat' accusative pattern within INFLP, as how INFL and v probe in the syntax is independent of the $\phi$-features on the arguments. However, at PF, [1PL] and [2+1] features in the intransitive fail to realize via verbal morphology, so the features stay in the representation; it is later in the derivation when these features are 'captured' by C, where they are realized as a distinct suffix.

Finally, note that as a logical possibility, a node may simply lack an elsewhere VI rule in the vocabulary, so that certain features on that node do not trigger insertion at all, as the conditions of no VI rule are met. This is exactly what happens to INFL in (21b) and (22b), where no prefixes are inserted. The discussion of Ainu thus provides an explanation of why 'default' morphology in many cases tends to be zero—'default' may simply refer to non-insertion, not just to the insertion of an elsewhere exponent (which can, by chance, also be zero; see also fn.10). The idea that an elsewhere exponent may be missing for certain nodes is explicitly argued for in Ganenkov 2020 and Chén to appear (see Harley 2014 for cases of missing elsewhere on the LF side).

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explore this issue further due to space limitations.

[12]Note that the case of (21b) and (22b) is similar to Bondarenko & Zompì's (2025) *leftover agreement*, but there is a difference: In their case, the $\phi$-features on a lower head are *partially* consumed by VI, and the remaining features ('leftover' features in their term) remain active (i.e., they are visible to a higher head), whereas in the current case (21b&22b), the $\phi$-features on the lower head (i.e., INFL) are not consumed at all (and they are all visible to the higher head C). This suggests that the 'leftover' agreement effect is in fact a more general phenomenon, which I dub *retained agreement* (literally, there is no 'leftover' if nothing is consumed).

## 4 Second and third person

We now turn to second and third person, which show a neutral alignment pattern (see 4–6). The solution is straightforward: They each involve syncretism between INFL and V exponents. That is, for [2SG], [2PL], and [3], respectively, INFL and v share the same VI rules:

(23) INFL & v exponents (second and third person):

a. [+PART, +ADDR, −PL] → *e-* (2SG prefix)

b. [+PART, +ADDR, +PL] → *eci-* (2PL prefix)

c. [−PART] → ∅- (Third-person marker)

The VI rules in (23) do not specify the node information: They may apply to either INFL and v. Thus, second and third person also show an accusative pattern in Ainu agreement underlyingly, but the pattern is partially disguised at PF as INFL (nominative) and v (accusative) morphology happen to be the same. Under the current analysis, (5b) is structurally ambiguous:

(24) a. [$_{\text{INFL}}$ *eci-* ] [$_{\text{v}}$ ∅-*nukar* ]] 'You$_{\text{PL}}$ see her.'

b. [$_{\text{INFL}}$ ∅- [$_{\text{v}}$ *eci-* *nukar* ]] 'She sees you$_{\text{PL}}$.'

The two structures in (24) are associated with the two meanings of (5b), so the fact that *eci-nukar* has two interpretations is merely a surface phenomenon. Related to the current issue, it needs to be noted that Ainu does not have any TAM morphology,[13] so as a result, INFL elements and v elements are always linearly adjacent to each other, and if only one occurs overtly (as in (24)), some surface ambiguity may occur. Since we have been concentrating on (i) intransitives and (ii) transitives where one argument is a third-person, which is always realized as zero (23c), the cases we have seen so far have at most one prefix. However, it is in principle possible to have two $\phi$-markers, one on INFL and one on v, prefixed to the same verb, as in (25) (see also fn.15):[14]

(25) a. Eci-i- nukar.
2PL-2+1.P-see
'You$_{\text{SG}}$ see someone.'

b. A-eci- nukar.
2+1.A-2PL-see
'Someone sees you$_{\text{SG}}$.'
(Tamura 2000)

(25) is expected by the current analysis—*eci-* is on INFL in (25a) and is on v in (25b). In addition, the 'flat' accusative account of Ainu agreement spelled out in Section 3 is further supported: One needs two preverbal morphological slots (and correspondingly, two heads in the syntax) to account for the Ainu data in any case, simply because there are sometimes two overt $\phi$-prefixes.

[13] Thus, *eci-mína* '2PL-laugh' in (5a) may mean 'you laughed', 'you laugh', or 'you will laugh', in different contexts (Tamura 2000).

[14] A 2+1 prefix may cooccur with a second-person prefix without violating Condition B because the 2+1 argument may also receive an impersonal reading in Ainu (as reflected in the translation in (25)); see also fn.3.

## 5 Remarks on the local domain

The discussion so far has focused on intransitives and transitives in the non-local (3>3) domain and the mixed (1/2>3, 3>1/2) domain. One then wonders what happens in the local (1>2; 2>1) domain. In Ainu, while the patterns are quite stable in the non-local and the mixed domain (no significant cross-dialectal variations are reported; the discussion in previous sections holds for most if not all dialects spoken in Hokkaido), interesting variations are attested in the local domain. While space limitations prevent me from providing an in-depth investigation of the entire cross-dialectal picture, I examine in this section one representative case and show that it is nicely captured by the account provided by the current paper.

Consider the 1>2 patterns in two dialects: Horobetsu (Southwestern Hokkaido) and Ishikari (Northeastern Hokkaido). The relevant paradigms are given below (the data are from Bugaeva 2024). Note that *es-* in Ishikari is cognate to the second-person plural prefix *eci-* in other Ainu varieties (the difference is entirely phonological). (I ignore 2+1 arguments in this section due to space limitations.)

| | | 2SG.P | 2PL.P |
|---|---|---|---|
| 1S | SG | *e-*Σ*=as* | *eci-*Σ*=as* |
| | PL | | |

**Table 4:** Horobetsu 1>2

| | | 2SG.P | 2PL.P |
|---|---|---|---|
| 1S | SG | *e-*Σ*=an* | *es-*Σ*=an* |
| | PL | *e-*Σ*=as* | *es-*Σ*=as* |

**Table 5:** Ishikari 1>2

If 1>2 were entirely transparent, one would expect bi-prefixal cases like **ku-e-*Σ for 1SG>2SG. However, such regular cases are unattested for 1>2 in any Ainu varieties in Hokkaido.[15] While it is cross-linguistically not uncommon to observe some morphological idiosyncrasy in the local domain (Heath 1991, 1998), one wonders how exactly the patterns in Table 4 and Table 5 are derived. While in both varieties, the second-person object is regularly marked by *e-* or *eci-* depending on its number (both would occur on v, under the current analysis), the first-person subject is unexpectedly not marked by a regular A prefix (*ku-* for 1SG and *ci-* for 1PL, as stated in (17)). Rather, the $\phi$-features of the first-person subject turn out to be marked by a C suffix in 1>2 contexts: (i) It is invariably *=as* in Horobetsu whereas (ii) in Ishikari, *=an* is used for 1SG and *=as* for 1PL.

Recall that in the traditional description, *=an* and *=as* are respectively taken to be first-person inclusive and exclusive markers in intransitives—clearly, this is not a suitable statement of the patterns found in 1>2 contexts. By contrast, *=an* and *=as* are two C exponents in the present analysis, which attempts to capture the following generalization (see previous sections):

(26) In intransitives with a 1PL or 2+1 subject, the features on INFL fail to realize (no suitable or elsewhere VI rules), in which case these features are Agreed with by, and are realized on, C.

The suggestion is thus that (i) *=as* realizes [+PART, +SPKR, +PL] (=1PL), and (ii) *=an* realizes [+PART, +SPKR, +ADDR] (=2+1). Notice, crucially, that because *=as*

[15] By contrast, transparent cases are *sometimes* found in 2>1 contexts. For example, in Horobetsu, 2PL>1SG is expressed regularly as *eci-en-*Σ, which is directly expected under the present analysis. While there are still some variations in 2>1, I cannot discuss them here for reasons of space.

and =*an* are the only two possible realizations of C, logically speaking, there are multiple ways to featurally specify the VI rules that condition them. That is, *any* difference between the two sets of features (i.e., [+PART, +SPKR, +PL] and [+PART, +SPKR, +ADDR]) may be used to state the featural specifications of =*as* and =*an*. For example, technically, it is possible to state that =*an* realizes [+ADDR], while =*as* is the elsewhere form on C, or, equally possible, =*as* is in fact the realization of [+PL] while =*an* is underspecified. I suggest that it is exactly this featural indeterminacy of the two C exponents that gives rise to the difference between Horobetsu (Table 4) and Ishikari (Table 5).

The account goes as follows. First, to account for the fact that in both Horobetsu and Ishikari, [1SG] or [1PL] are not regularly indexed on INFL if v is indexed as second person, I introduce the following impoverishment rule for both varieties:

(27) $[+\text{SPKR}]_{\text{INFL}} \rightarrow \varnothing \,/\, \_\_\, [+\text{ADDR}]_{\text{v}}$

Any account of Ainu agreement regarding the 1>2 contexts will need something similar to (27), as it is a matter of fact that the language has irregular patterns (and rich variations) in the local domain. The rule in (27) states that the [+SPKR] feature gets deleted on INFL, if there is [+ADDR] on v. So, in both 1SG>2 and 1PL>2 cases, the condition of (27) is met and it will apply (note that impoverishment standardly happens before vocabulary insertion). After that, the [1SG] or [1PL] features on INFL become [+PART, ~~+SPKR~~, −PL] and [+PART, ~~+SPKR~~, +PL], respectively (~~+SPKR~~ is written for ease of exposition, the feature is gone entirely). As a result, none of the VI rules stated in (17) (as well as in (23)) for INFL could apply, as they all address features that INFL now lacks.

Recall that when $\phi$-features are not 'consumed' via VI rules, they stay in the representation. This crucially means that [+PART, ~~+SPKR~~, −PL] or [+PART, ~~+SPKR~~, +PL] remain active on INFL, and they can then be targeted by C when C probes (following the same reasoning discussed in previous sections). These features are thus 'transmitted' onto C, due to Agree.

I argue that the difference between Horobetsu and Ishikari 1>2 is a difference between their VI rules for C exponents. The following VI rules (28–29) are suggested for the two varieties, respectively:

(28) C exponents in Horobetsu:
  a. $[+\text{PART}, +\text{ADDR}]_{\text{C}} \rightarrow$ =*an*
  b. $[+\text{PART}]_{\text{C}} \rightarrow$ =*as*

(29) C exponents in Ishikari:
  a. $[+\text{PART}]_{\text{C}} \rightarrow$ =*an*
  b. $[+\text{PART}, +\text{PL}]_{\text{C}} \rightarrow$ =*as*

The rules in (29) are what we have used in Section 3, where 1PL and 2+1 intransitives are discussed. As explained above in this section, both (28) and (29) derive the same and correct forms of 1PL and 2+1 intransitives as well as the surface tripartite pattern for 1PL and 2+1(see also (a) and (b) in Table 6 below). However, they give different results in 1>2 contexts, which essentially captures the difference between Horobetsu and Ishikari.

As shown in Table 6, the rules in (28) and in (29) derive the same surface forms in 1PL intransitive, 2+1 intransitive, and 1PL contexts (Horobetsu and Ishikari show no variations in those contexts). However, in 1SG>2 contexts where the input on C

| | Context | Features on C | Horobetsu C (28) | Ishikari C (29) |
|---|---|---|---|---|
| (a) | 1PL.intr. | [+PART, +SPKR, +PL] | *=as* | *=as* |
| (b) | 2+1.intr. | [+PART, +SPKR, +ADDR] | *=an* | *=an* |
| (c) | 1SG>2 | [+PART, ~~+SPKR~~, −PL] | *=as* | *=an* |
| (d) | 1PL>2 | [+PART, ~~+SPKR~~, +PL] | *=as* | *=as* |

**Table 6:** The realizations of C in Horobetsu and Ishikari

is [+PART, ~~+SPKR~~, −PL], because of the standard subset principle, (28b) applies in Horobetsu while (29a) applies in Ishikari. Hence, the difference between the two varieties shown in Table 4 and Table 5 is captured in our analysis.

In sum, Horobetsu and Ishikari are exactly the same regarding the agreement pattern in the syntax. Also, the impoverishment rule (27), which deletes [+SPKR] in 1>2 contexts, works the same way. The two varieties only differ in how they featurally specify the two C-exponents in the vocabulary. Such a low-level difference is conceptually desirable for capturing micro-variations between closely related languages. The discussion in the section strongly supports the analysis provided in the paper, as it accounts for the dialectal variation in question in a straightforward way.

## 6 Conclusion

Ainu is a language with a complex agreement system, traditionally described as a mixture of accusative, tripartite, and neutral patterns. This paper argued that the complexity is largely superficial. Syntactically, Ainu is a 'flat' accusative language (subject agreement on INFL and object agreement on v), the pattern being obscured on the surface mainly for reasons of the vocabulary. First, 1PL and 2+1 subjects in intransitives are not realized on INFL, in which case the 'unconsumed' features are 'transmitted' to and realized on C. Second, INFL and v share the same VI rules for second and third person, where apparent neutral patterns are attested. Some microvariations in the local (1>2) domain are also captured by the analysis, which in turn strongly support the account provided by this study.

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